Abstract
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TITLE: DETERMINATION OF SOURCE PARAMETERS AND WAVE ATTENUATION CHARACTERISTICS IN ALASKA

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We report on work performed at the University of Alaska, Geophysical Institute Seismology Laboratory on seismic wave attenuation properties in various regions of Alaska. Efforts include robust data measurement techniques; utilization of older analog data; incorporation of IRIS PASSCAL data sets; regionalization of Lg wave blockage; and localized attenuation estimates from an urban strong-motion network associated with a micro-zonation project in Anchorage.

We have begun to place constraints on the nature of Lg propagation in central Alaska using a variety of both qualitative and quantitative methods. Results from this study show that south-central Alaska has much attenuation and a much higher frequency dependence than stable continental regions. This result is expected given the active tectonic setting of south-central Alaska. The results from this work can be used in a variety of applications including local magnitude estimates, earthquake hazard assessment in population areas and for shaking intensities expected at engineering structures, such as Urban areas and the Alaska Pipeline.

Non-Technical Project Summary

We report on work performed at the Seismology Laboratory on seismic wave attenuation properties in various regions of Alaska. Efforts include robust data measurement techniques; regionalization of seismic wave blockage; and localized attenuation estimates from an urban strong motion network. Results show that south-central Alaska has higher attenuation and a higher frequency dependence than stable continental regions. This result is expected given the active tectonic setting of Alaska. The results from this work can be used in a variety of applications including local magnitude estimation, earthquake hazard assessment in populated areas, and for shaking intensities expected at engineering structures.